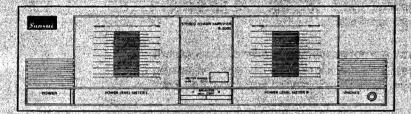
SERVICE MANUAL

STEREO POWER AMPLIFIER

SANSUI B-3000/1000



CAUTION

- Parts identified by the
 <u>∧</u> symbol on the schematic diagram and the parts list are critical for safety. Use only replacement parts that have critical characteristics recommended by the manufacturer.
- 2. Make leakage-current or resistance measurements to determine that exposed parts are acceptably insulated from the supply circuit before returning the appliance to the customer.

SPECIFICATIONS

< B-3000 > -

Power output

Min. RMS, both channels driven, from 20 to 20,000 Hz, with no more than 0.05% total harmonic distortion.

120 watts per channel into 8 ohms Load impedance........... 8 to 16 ohms

Intermodulation distortion (70 Hz: 7 kHz = 4:1, SMPTE method) less than 0.01% at rated

power output

Frequency response (at 1 watt)

......5 to 100,000 Hz, +0 dB, -2 dB

Input sensitivity and impedance (at 1 kHz)

.. 1 V/33 kohms Signal to noise ratio (short-circuit, A-network)

......110 dB

Power requirements AC 120V/220V/240V,

50/60 Hz

For U.S.A. & Canada .. AC 120V, 60 Hz

Power consumption 440 watts 540 VA Rated

127 mm (5") H 224 mm (8-13/16") D

........... 9.6 kg (21.2 lbs) net

< B-1000 >

Power output

Min, RMS, both channels driven, from 20 to 20,000 Hz, with no more than 0.05% total harmonic distortion.

75 watts per channel into 8 ohms

Load impedance............ 8 to 16 ohms

Intermodulation distortion (70 Hz: 7 kHz=4:1, SMPTE method) less than 0.01% at rated

power output

Frequency response (at 1 watt)

...... 5, to 100,000 Hz,

+0 dB, -2 dB Input sensitivity and impedance (at 1 kHz)

. 1 V/33 kohms

Signal to noise ratio (short-circuit, A-network)

.... 110 dB

AC 120V/220V/240V Power requirements ...

50/60 Hz

300 watts Power consumption

.... 430 mm (16-15/16*) W Dimensions

127 mm (5") H 224 mm (8-13/16") D

Design and specifications subject to changes without notice for im-

Due to local laws and regulations, this unit sold in some areas are equipped with variable voltage selectors.

NOTE

1. The symbols, UL, CSA, SA, BS, UK, EU, AS, SEV, SS, XX <EXPORT> and XX-V <EXPORT(V)> on the parts list and the schematic diagram mean followings respectively.

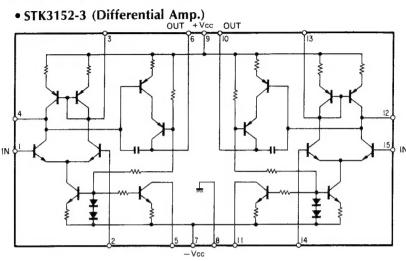
UL Manufactured for U.S.A market.
(Underwriters Laboratories approved model.)
CSA Manufactured for Canadian market.
SA Manufactured for South African market.
BS, UK Manufactured for United Kingdom market.
EU Manufactured for European market.
AS Manufactured for Australian market.
SEV Manufactured for Swiss market.
SS Manufactured for Saudi Arabian market.
XX < EXPORT > Standard Version with Inner Voltage Selector.
XX-V < EXPORT(V) > Standard Version with Outer Voltage Selector.
NON MARK Common Parts.

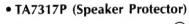
- Some printed circuit boards are not supplied assembled. To separate these in this service manual, the stock numbers are not indicated for these boards. However, stock numbers for individual parts are indicated.
- 3. Since some capacitors and resistors are omitted from parts lists in this service manual, refer to the Common Parts List for capacitors and resistors, which was issued on February 1983.
- 4. Abbreviations in this service manual are as follows.

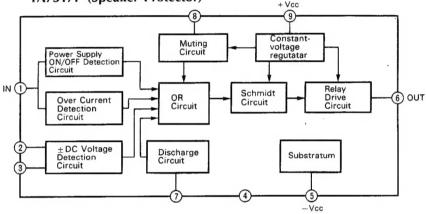
C.R.	: Carbon Resistor	E.B.L.	: Low Leak Bi-Polar
S.R.	: Solid Resistor	-	Electrolytic Capacitor
Ce.R.	: Cement Resistor	Ta.C.	
M.R.	: Metal Film Resistor	F.C.	
F.R.	: Fusing Resistor	M.P.	: Metalized Paper Capacitor
N.I.R.	: Non-Inflammable Resistor	P.C.	: Polystyrene Capacitor
A.R.	: Array Resistor	G.C.	: Gimmic Capacitor
C.C.	: Ceramic Capacitor	A.C.	: Array Capacitor
C.T.	: Ceramic Capacitor,	V.R.	: Variable Resistor
	Temperature Compensation	S.V.R.	: Semi Variable Resistor
E.C.	: Electrolytic Capacitor	SW.	: Switch
E.L.	: Low Leak Electrolytic	Chip R	.: Chip Resistor
	Capacitor	Chip C	: Chip Capacitor
E.B.	: Bi-Polar Electrolytic		
	Capacitor		

1

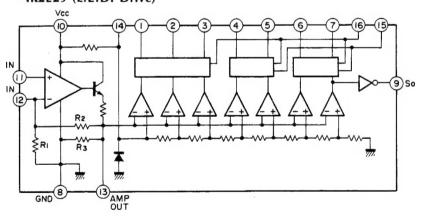
1. INTERIOR BLOCK DIAGRAM OF IC



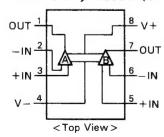




• IR2E29 (L.E.D. Drive)



• M5218P/NJM4558D (OP Amp.)



2. PARTS LIST OF BOARD

2-1. F-5778 Main Amp Board (Stock No. 01045301 = B-3000/01046201 = B-1000)

Parts No.	Stock No.	Description	Parts No.	Stock No.	Description
• Transistor			107	03010901	2SA992
∆ kQ1	03067401	2SC1845			
∆kQ2	48263101	2SC3298A < B-3000>	•IC		
Λ	07206401	2SD600K < B-1000>	IIC1	46207600	TA7317P
$\overline{\Delta}$	or 48849101	2SC3944A < B-3000 >			
∆ kQ3	48263001	2SA1306A <b-3000></b-3000>	Diode		
∆	07206301	2SB631K <b-1000></b-1000>	ID1	83000100	1N4148
$\stackrel{\Omega}{\mathbb{A}}$			1D2	83000100	1N4148
<u> </u>	or 48849001	2SA1535A < B-3000 >	· ID3	83000100	1N4148
ΔkQ4	46541401	2SC2921 <b-3000></b-3000>			
<u>^</u>	48490801	2SC3855 <b-1000></b-1000>	ID5	83000100	1N4148 < B-3000 >
∆ kQ5	46541301	2SA1215 <b-3000></b-3000>	ID6	83000100	1N4148 <b-3000></b-3000>
Δ	48490701	2SA1491 <b-1000></b-1000>	ID7	83005000	1N4002
IC			IPT1	48262800	Thermistor ZPP221C501A110
kIC1	48127000	STK3152-3 < B-3000 >	 ∆IPT2	48262700	Thermistor ZPP220T501A80
	48904300	STK3082-2A < B-1000 >			
kIC2	03607700	NJM4558D	IC2	48101500	100μF 6.3V E.B.
RIOZ	or 46580100	M5218P			
	01 40300100	10132 101	AIR14	46229000	100Ω 1/2W N.I.R.
ΔkR9	46220400	33Ω 1/2W N.I.R.	∆ IR15	46229000	100Ω 1/2W N.I.R.
	46228400		<u></u> IR16	46229300	180Ω 1/2W N.I.R. <b-3000></b-3000>
∆ kR12	46228600	47Ω 1/2W N.I.R.	-		
∆ kR13	46228600	47 Ω 1/2W N.I.R.	A 1547	46229100	120Ω 1/2W N.I.R. <b-1000></b-1000>
ΔkR16	48197000	$0.22\Omega + 0.22\Omega$ 7W Ce.R.	<u></u> ∆IR17	46229300	180Ω 1/2W N.I.R. < B-3000 >
		<b-3000></b-3000>	A	46229100	120Ω 1/2W N.I.R. <b-1000></b-1000>
Δ	46184100	$0.22\Omega + 0.22\Omega$ 5W Ce.R.	∆ IR23	46249100	120 Ω 1/2W N.I.R. <b-3000></b-3000>
		<b-1000></b-1000>	∆ IR24	46249100	120 Ω 1/2W N.I.R. <b-3000></b-3000>
ΔkR17	46623100	10Ω 2W N.I.R.	 ∆IR28	46229100	120 Ω 1/2W N.J.R.
1 kR23	46622300	2.2 Ω 2W N.I.R.	∆ IR29	46227400	4.7Ω 1/2W N.I.R.
∆ kR51	46624700	220Ω 2W N.I.R.	IRL1	48524300	Relay, (DC 12V)
A KITO	40024700	22048 277 17		or 48524400	Relay, (DC 12V)
kC13	48103500	2.2μF 50V E.B.			,.
kC14	48103700	4.7μF 50V E.B.	 Transistor 		
	10100100	,,,,	∆mQ1	46614101	2SC3243
kL1	83020100	Inductor	∆mQ2	46614001	2SA1283
KLI	03020100	madetor	23/11/22	40014001	23/12/03
kM1	83020800	MOTOR < B-3000 >	Diode		
			△mD2	83004800	KBP02
kVR1	83006800	500Ω S.V.R., Bias			
			 Zener Diode 	e	
Transistor			mDZ1	46113900	05Z12-Y
IQ2	46367101	2SC2603	111021	or 46114000	05Z12-Z
102	or 46367301	2SC2458	mDZ2	46113900	05Z12-Z
		2SC1740S	HIDZZ		
100	or 48058801		A 50	or 46114000	05Z12-Z
IQ3	46367001	2SA1115	∆ nR6	46230300	1.2k Ω 1/2W N.I.R.
	or 46367201	2SA1048			
	or 48058601	2SA933S	oS1	83004700	Push SW., SPEAKERS
1Q4	46367001	2SA1115 < B-3000 >			
	or 46367201	2SA1048 < B-3000 >	oJ1	83002600	Jack, PHONES
	or 48058601	2SA933S <b-3000></b-3000>			·
IQ5	48059401	2SA1284 < B-3000 >	oZ1	83003900	2P Terminal, INPUT
106	48863701	2SC2857			
. 20	or 48863901	2SC1473			

2-2. F-5779 Power Supply Board

Parts No.	Stock No.	Description	
• Diode	0000000	VDD0000	
<u></u> MmD1	83020900	KBPC802	
∆ mR1	46626600	8.2kΩ 2W N.I.R.	
∆ mR2	46626600	8.2kΩ 2W N.I.R.	
∆ mR3	46622700	4.7 Ω 2W N.I.R.	
mC1	48846000	8200µF 80V E.C.	
mC2	48846000	8200µF 80V E.C.	
mC12	08680400	0.01 µF 500V C.C.	

2-3. F-5780 Speakers Terminal Board

Parts No.	Stock No.	Description
oZ2	83002300	8P Terminal, Speaker

2-4. F-5781 Meter Range SW., Board

Parts No.	Stock No.	Description
oS2	83004500	Push SW., METER RANGE

2-5. F-5782 Indicator Board

Parts No.	Stock No.	Description
•LED		
nLD9	48849300	SEL3913K, POWER

2-6. F-5784 Fuse Board

Parts No.	Stock No.	Description
△pF1	83022000	Fuse 4A < B-3000 > (XX-V·SS)
,	83029100	Fuse 8A < B-3000 > (UL.CSA)
\triangle	83021800	Fuse 2.5A < B-1000 > (XX-V•SS)
⚠pF2	83022000	Fuse 4A < B-3000 > (XX-V-SS)
\triangle	83021800	Fuse 2.5A < B-1000 > (XX-V-SS)

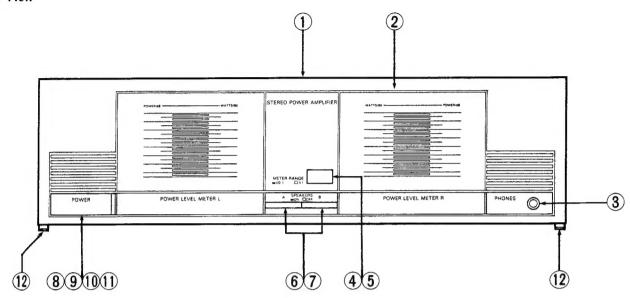
2-7. F-5783 Power Level Meter Board

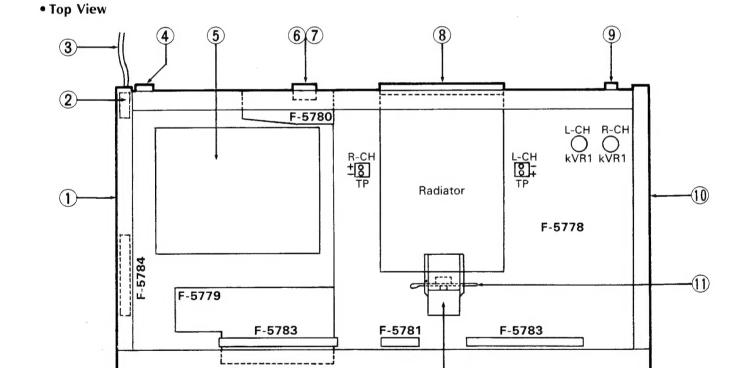
(Stock No. 01045801)

Parts No.	Stock No.	Description	
•IC			
nIC1	46398400	IR2E29	
•Zener Diode	9		
nDZ1	46109300	05Z3.0-X	
	or 46109400	05Z3.0-Y	
•LED			
nLD1	48841300	SEL3813A	
nLD2	48841300	SEL3813A	
nLD3	48841300	SEL3813A	
nLD4	48841300	SEL3813A	
nLD5	48841300	SEL3813A	
nLD6	48841300	SEL3813A	
nLD7	48841300	SEL3813A	
nLD8	48841300	SEL3813A	

3. OTHER PARTS

• Front View





Front Panel

• Parts List < Front View>

Parts No.	Stock No.	Description
1	84503900	Bonnet
2	37500101	Front Panel Ass'y < B-1000 >
	37500001	Front Panel Ass'y <b-3000> (XX)</b-3000>
	37500002	Front Panel Ass'y
		<b-3000>(UL. CSA)</b-3000>
3	83002600	Jack, PHONES
4	48508800	Knob, METER RANGE
5	83004500	Push SW., METER RANGE
6	84508900	Knob, SPEAKERS
7	83004700	Push SW., SPEAKERS
8	84517800	Knob, POWER
∆ 9	48113300	Push SW., POWER < B-1000>
\triangle	46612900	Push SW., POWER < B-3000>
10	84505100	Spring, POWER
△ 11	46425800	0.01µF 400V C.C.
12	84527700	Leg

4. ADJUSTMENTS

- Room Temperature 18°C ~ 28°C.
 For this adjustment run the unit for more than 5minutes after the power is switched ON.
 For the point of adjustment, see the Top View.
 See Top View on page 5 adjustment position.

STEP	MEASURE OUTPUT	ADJUST	ADJUST FOR
1 L-CH	Terminal (TP) Between emitters of Power transistors (KQ4 & KQ5)	KVR1 (F-5778) L-CH	5mV ±1mV
2 R-CH	Terminal (TP) Between emitters of Power transistors (KQ4 & KQ5)	KVR1 (F-5778) R-CH	5mV ±1mV

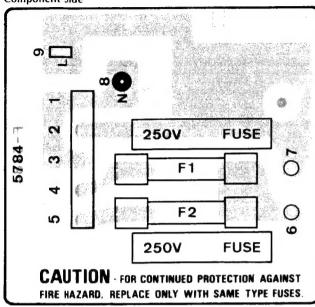
Parts List < Top View>

Parts No.	Stock No.	Description
1	84512000	Side Panel, Left < B-3000/1000 >
	84519800	Side Panel, Left (UL.CSA)
		<b-3000></b-3000>
2 1 3	84514000	AC Cord Holder
△ 3 △	83020000	Power Supply Cord (XX-V-SS)
	83003600	Power Supply Cord (UL.CSA) <b-3000></b-3000>
\triangle	48837700	Power Supply Cord (SS)
△ 4	83004100	AC Outlet (XX-V·SS)
Δ 4 Δ Δ Δ 5	83002200	AC Outlet-Polarized (XX-V-SS)
\triangle	83002200	AC Outlet (UL) < B-3000>
△ 5	83011509	Power Tranformer with
		VOLTAGE SELECTOR
		Socket (XX-V·SS)
Δ	83011602	Power Tranformer (UL.CSA) <b-3000></b-3000>
6	48175200	Plug, VOLTAGE SELECTOR (XX-V·SS)
7	83002300	8p Terminal, SPEAKERS
8	84507500	HS Cover < B-3000 >
9	83003900	2P Terminal, INPUT
10	84512100	Side Panel, Right
		<b-3000 1000=""></b-3000>
	84519900	Side Panel, Right (UL.CSA) <b-3000></b-3000>
11	07255000	Fan < B-3000 >
12	83020800	DC Motor < B-3000 >

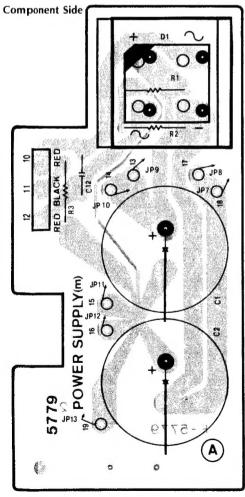
5. PARTS LOCATION ON BOARD

5-1. F-5784 Fuse Board

Component Side

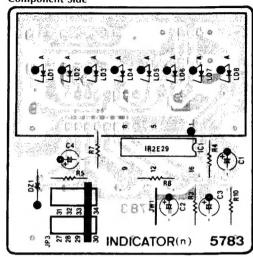


5-2. F-5779 Power Supply Board



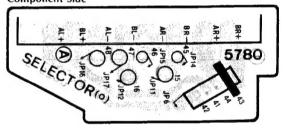
5-3. F-5783 Power Level Meter Board

Component Side



5-4. F-5780 Speakers Terminal Board

Component Side



5-5. F-5781 Meter Range SW., Board

Component Side

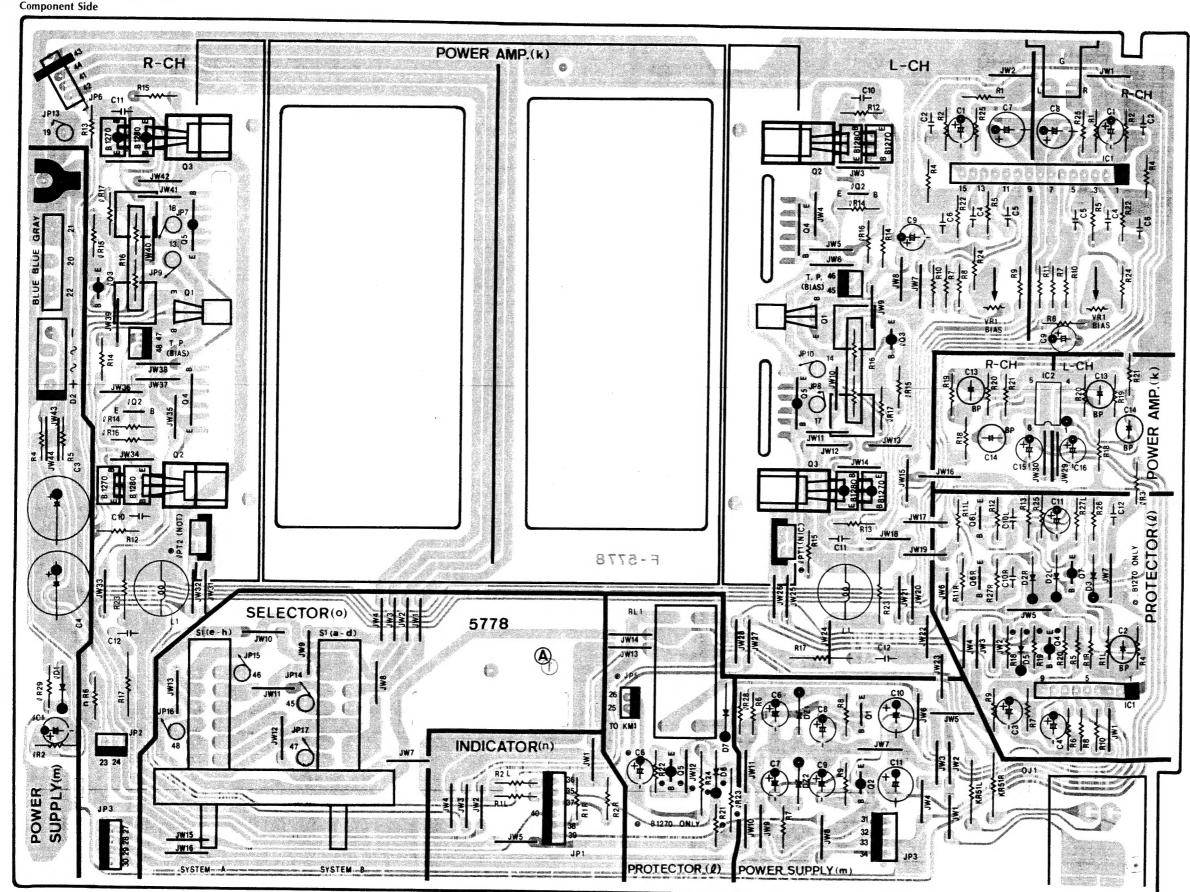


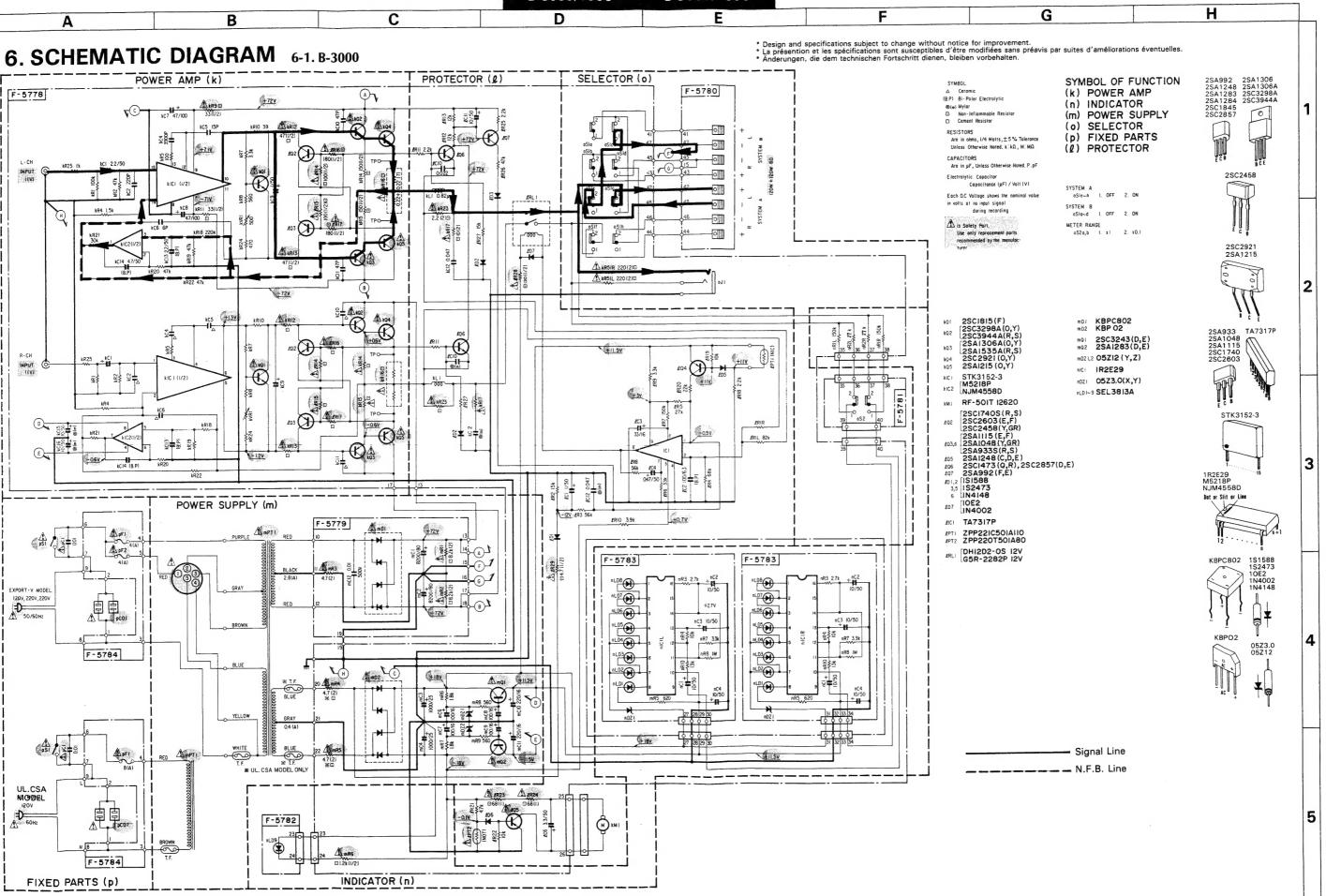
5-6. F-5782 Indicator Board

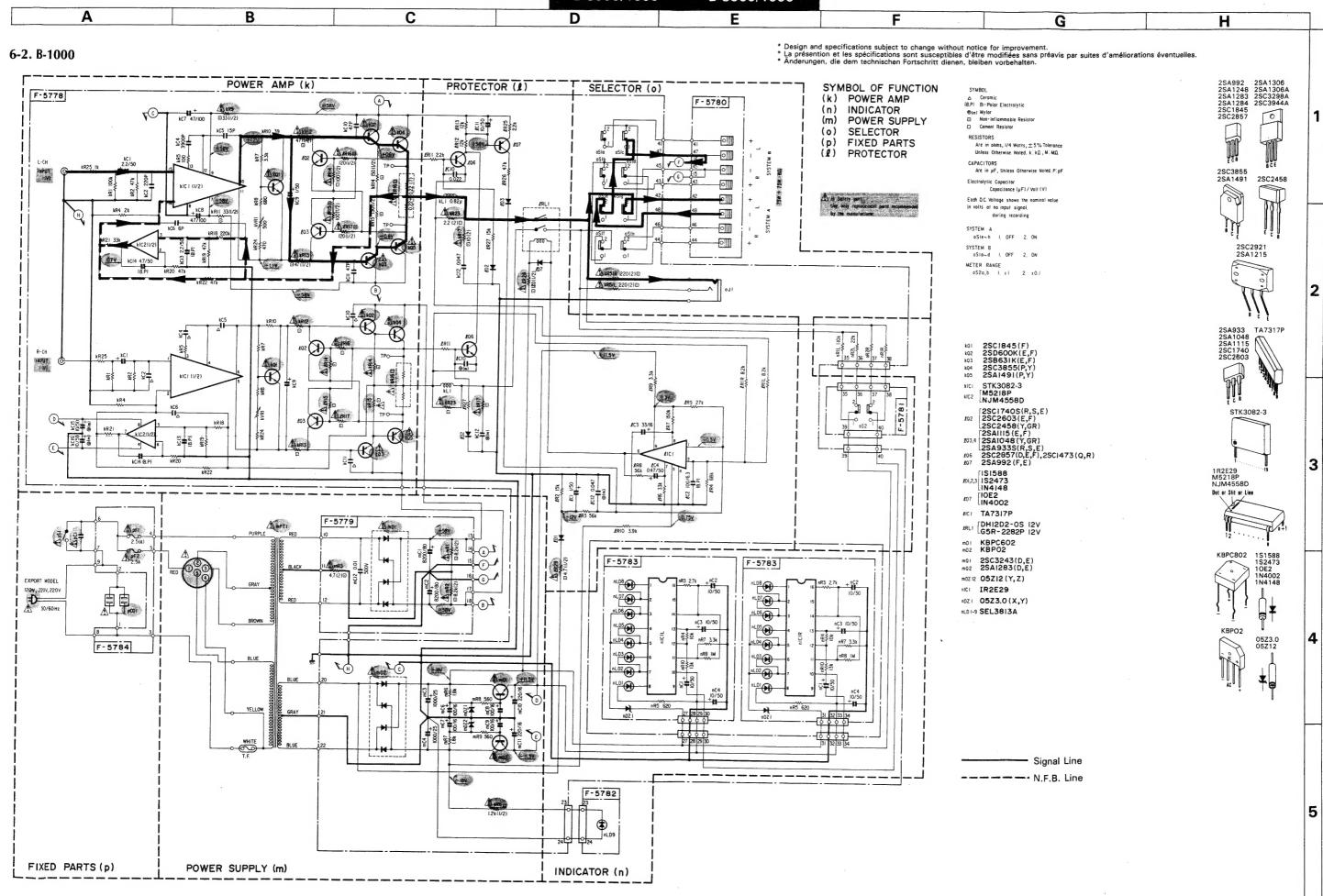
Component Side



5-7. F-5778 Main Amp Board Component Side







7. MAIN PARTS REPLACEMENT

- A. Bonnet (Fig. 7-1)

 1) Loosen two Screws (he) fixing the Bonnet.
 2) Lift up the Bonnet to remove.

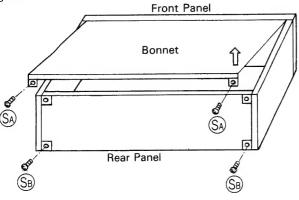
- B. Bottom Plate (Fig. 7-2)

 1) Loosen Screws (®) (©) fixing the Bottom Plate.

 2) Lift up the Bottom to remove.

- C. Side Panel, Left (Right) (Fig. 7-3)
 1) Remove the bonnet and Bottom Plate.
 2) Shift the position of the Side Panel 2.0cm in the arrow direction ①.
 3) Remove the hooks of side panel from front panel and them pullit the arrow direction ③ to the Side Panel Left (Right).
 4) Lift up PCB guide ③ of the Front Panel Assy to pull out the PCB (Fig. 7-4).

Fig. 7-1



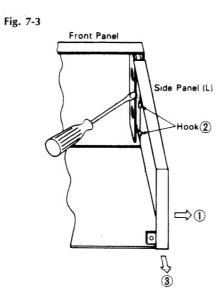
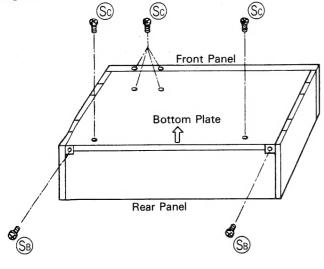
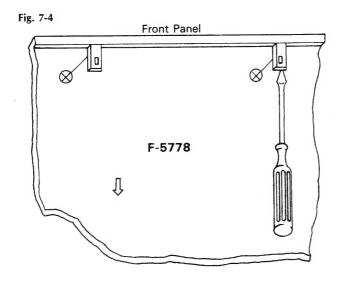


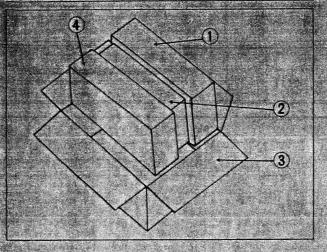
Fig. 7-2





8. PACKING LIST

Parts No.	Stock No.	Description
1	84521900	Styrofoam Packing (Back)
9	84519200	Vinyl Bag
3	84520700	Carton Case < B-1000>
	84520500	Carton Case < 8-3000>
4	84522000	Styrofoam Packing (Front)
	The second second second	The second secon



9. ACCESSORY LIST

33.440	Stock No.	Description	on "	7.84
	49026600	Operating	Instruction	
1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	An Expedition	< B-1000	> 1.11	
	49026700	 Operating 	Instruction	
A Control of the Control of		< B-3000	S 45	



SANSUI ELECTRIC CO., LTD.;

SANSUI ELECTRONICS CORPORATION

SANSUI ELECTRONICS (U.K.) LTD. SANSUI ELECTRONICS G.M.B.H.

14-1. Izumi 2-chome, Suginami-ku, Tokyo 168 Japan PHONE: (03) 324-8891/TELEX: 232-2076 (International Divis 1250 Valley Brook Ave. Lyndhurst, N.J. 07071 U.S.A. 17150 South Margay Ave. Carson, California 90746 U.S.A. 3036 Koapaks Street, Honoliulu, Hawaii 96819 11.S.A. Unit 10A. Lyon Industrial Estate. Rockware Avanue, Greenlo-Paul Ehrich Strasse 8, 8074 Rödermark 2, West Germany

(SM1-347) (1987, 4.M) < Stock No. 36530300>



SERVICE MANUAL SUPPLEMENT EDITION

B-1000 B-3000

NOTE

This edition is supplement for B-3000/1000 Service Manual previously issed, and applies to all B-3000 and B-1000 with NEW SANSUI MARK on the front panel For servicing, please refer to this edition together with original B-3000/1000 Service Manual.

STEREO POWER AMPLIFIER

NOTICE:

Since the circuits of motor drive contrrol and protector section employed in B-1000 (CSA·EU and SEV) are similar to those of B-3000, the schematic diagram of those circuits are omitted from this manual, therefore please refer to the schematic diagram of B-3000.

CAUTION

- 1.Parts identified by the ▲ symbol on the schematic diagram and the parts list are critical for safety. Use only replacement parts that have critical characteristics recommended by the manufacturer.
- 2. Make leakage-current or resistance measurements to determine that exposed parts are acceptably insulated from the supply circuit before returning the appliance to the customer.

NOTICE:

- 1. The symblos, UL, CSA, SS, EU, SEV and XX (EXPORT) on the parts list mean followings respectively.

 UL Manufactured for U.S.A market. (Underwriters Laboratories approved model)
 - CSA..... Manufactured for Canadian market. SS....... Manufactured for Saudi Arabia market.
 - EU Manufactured for European market. SEV....... Manufactured for Swiss market. XX (EXPORT) Standard Version. NON MARK........ Common Parts.
- 2.On the parts list, the changed parts are specified by "#" mark on top of the Parts No.

I. OTHER PARTS

Parts List < Top View>

Parts I	No.	Stock No.	Description
	1	84512000 84512000	Side Panel,Left for B-1000 Side Panel,Left for B-3000
		64312000	(XX • CSA • SS)
		84519800	Side Panel, Left for B-3000
	2	84514000	(UL) AC Cord Holder
A #	3	83001800	Power Supply Cord for B-1000 (XX)
⚠ #		83020000	Power Supply Cord-polarized (XX+CSA)
Δ		83003600	Power Supply Cord for B-3000 (UL)
⚠ #		83000600	Power Supply Cord for B-1000 (EU·SEV)
⚠ ⚠		48837700	Power Supply Cord (SS)
Δ	4	83004100	AC Outlet (XX·SS)
Δ		83002200	AC Outlet-polarized (XX•UL•CSA)
Δ	5	83011509	Power Transformer for B-1000 (XX+SS)
⚠ #		83011503	Power Transformer for B-1000 (CSA)
⚠ #		83046905	Power Transformer for B-1000 (EU-SEV)
$\hat{\Lambda}$		83011609	Power Transformer for B-3000 (XX+SS)
Δ		83011602	Power Transformer for B-3000 (UL+CSA)
Δ	6	48175200	Plug, voltage selector (XX.SS)
	7	83002300	8P Terminal, SPEAKERS
	8	84507500	HS Cover for B-1000 (CSA•EU•SEV)
		84507500	HS Cover for B-3000
	9	83003900	2P Terminal, INPUT
1	10	84512100	Side Panel, Right for B-1000
		84512100	Side Panel, Right for B-3000 (XX·SS·CSA)
		84519900	Side Panel, Right for B-3000 (UL)
	11	07255000	Fan for B-1000 (CSA·EU·SEV)
		07255000	Fan for B-3000
:	12	83020800	DC Motor for B-1000 (CSA-EU-SEV)
		83020800	DC Motor for B-3000
		47878000	Sleeve,Fan for B-1000 (CSA•EU•SEV)
		47878000	Sleeve, Fan for B-3000

Parts List < Front View>

Parts	No.	Stock No.	Description
	1	84503900	Bonnet
#	2	37503201	Front Panel Ass'y for B-1000
#		37503101	Front Panel Ass'y for B-3000 (XX·SS)
#		37503102	Front Panel Ass'y for B-3000 (UL·CSA)
	3	83002600	Jack . PHONES
	4	84508800	Knob. METER RENGE
	5	83004500	Push SW, METER RENGE
	6	84508900	Knob.SPEAKERS
	7	83004700	Push SW SPEAKERS
#	8	84567000	Knob.POWER
Æ	9	48113300	Push SW., POWER for B-1000
Δ		46612900	Push SW., POWER for B-3000
_	10	84505100	Spring, POWER
ΔħŦ	:11	46425800	0.01µF 400V C.C.
	12	84527700	Leg

2. PACKING LIST

Parts	s No.	Stock No.	Description
	1	84521900	Styrofoam Packing (Front)
	2	84519200	Vinyl Bag
#	3	84560400	Carton Case for B-1000
#		84560300	Carton Case for B-3000
	4	84522000	Styrofoam Packing (Rear)

3. ACCESSORY LIST

	Stock No.	Description	
#	84453100	Operating Instruction B-1000 (E·F·S·I)	for
#	84453200	Operating Instruction B-1000 (G.Sw)	for
#	84452800	Operating Instruction B-3000	for

E,F,S,I; English,French,Spanish and Italian Version

G.Sw ; German and Swedish Version



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